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Review article

A Systematic Review of Interventions for Preventing Adolescent Intimate Partner Violence

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A B S T R A C T

Purpose: Intimate partner violence (IPV) is a pervasive global health issue affecting adolescents. We reviewed randomized controlled trials of interventions to reduce physical, sexual, and psychological violence perpetration and victimization among adolescents.

Methods: PUBMED, CINAHL, Science Direct, Embase, PsychLIT, ISI Web of Science, Scopus, and the Cochrane database were searched for English language papers published up to the end of February 2013.

Results: Eight articles reporting on six randomized controlled trials were retrieved. Four interventions contained both school and community components. We found positive intervention effects on IPV perpetration (three studies) and IPV victimization (one study). Compared with the studies with no effects on IPV, the effective interventions were of longer duration, and were implemented in more than one setting. There were quality issues in all six trials.

Conclusion: Interventions targeting perpetration and victimization of IPV among adolescents can be effective. Those interventions are more likely to be based in multiple settings, and focus on key people in the adolescents' environment. Future trials should assess perpetration and victimization of IPV among male and female adolescents with and without prior experiences with IPV, taking gender differences into account.

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IMPLICATIONS AND CONTRIBUTION

Comprehensive IPV prevention interventions taught by teachers, based in school and community, and of long duration are effective in preventing IPV perpetration and victimization among adolescents.

Intimate partner violence (IPV) is defined as a pattern of assaultive and coercive behaviors that may include physical injury, sexual assault, psychological abuse, and threats, perpetrated by someone who is, was, or wishes to be involved in an intimate

relationship with an adult/adolescent [1]. It is a pervasive global health issue and a violation of human rights [2,3]. Worldwide there is a large disparity in reported rates of IPV. A multicountry study of women's health and IPV showed that globally between 4% and 54% of ever-partnered women (15–49 years of age) reported physical and/or sexual IPV in the last year [4,5].

Although the majority of IPV-related studies have focused on adult relationships, there is an increasing awareness of the extent of IPV among adolescents. A review of adolescent IPV in the United States has found that between 6% and 38% of males, and

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8%–57% of females reported having been victims of physical IPV; and 11%–20% of males, 28%–33% of females reported perpetrating IPV [6]. In South Africa, 15% of male high school students and 12% of females reported physical IPV perpetration, and 12% of males and 7% of females had forced someone to have sex [7].

Abusive experiences during adolescence [8,9] or childhood [3] may have devastating effects on adolescents' health and development, such as higher risks of depression [10,11], reproductive health problems [3], suicide attempts [9], and pregnancy among teenage girls [12]. In addition, IPV is associated with incident HIV infection among women [13–15]. Compared with adult relationships, adolescent relationships are less stable and more fluid [16] usually without commitments such as child rearing and joint financial expectations. Interventions need to be started in adolescence to break cycles of violence perpetration and victimization that can otherwise continue into adulthood [17,18].

An interplay of social norms, poverty, inequality, gender norms, family abuse, and cultures of violence influence rates of IPV [3,19–23]. Gender power inequities in society and in intimate relationships, gender norms [13,24–27], and the normative use of violence in conflict [28] are intricately linked to IPV and are conceptualized as the necessary “causes” of IPV [28]. Traditional masculine gender roles and norms and perspectives on male–female relationships impact on IPV perpetration and sexual risk behavior through, for example, male hypersexuality [12,24,29,30], and male sexual entitlement [13].

A review of the effects of IPV interventions included articles published up until the end of 2003, focused on perpetration of primary IPV [31]. This review included four randomized controlled trials (RCTs) and concluded that programs to prevent IPV perpetration were promising, but more data on their effects on victimization were needed [31]. Since the end of 2003, five RCTs of adolescent IPV prevention, addressing perpetration and/or victimization, have been published, and were included in the present review. We sought to evaluate the effects of interventions to prevent primary and secondary prevention of IPV perpetration and victimization among male and female adolescents.

Methods

Electronic databases searched for peer-reviewed RCTs, published in the English language, were: PUBMED, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Science Direct, EMBASE, PsychLIT, ISI Web of Science, Scopus, and the Cochrane database of Systematic Reviews. The searches included articles published up to the end of February 2013. The following search terms were used in different combinations, using the Boolean operators “AND” and “OR”: intimate partner violence, (teen) dating violence, adolescent relationship abuse, adolescent*, youth, young people, intervention*, program, prevention, promotion, perpetration, victimiz(ation), and evaluation.

Restrictions were: RCTs (including cluster RCTs) or “quasi-randomized” controlled trials, which evaluate intervention(s) for preventing perpetration and victimization of any type of IPV among adolescents.

Studies that evaluated effects of interventions in any school, community, or clinic, and that reported on at least one of the IPV outcomes were included. The age of the majority of the sample needed to be between 10 and 19 years. Studies were also excluded if they focused on a “specialized population” (e.g., young drug users or adolescents in juvenile institutions).

Two authors independently screened titles and abstracts of identified articles. Full papers of eligible articles were retrieved. Two authors independently extracted data from the full papers, using a predesigned electronic extraction sheet, capturing study characteristics, risk of bias, and study results. Three authors independently completed a risk of bias assessment for each included study using the Cochrane Collaboration's tool [32]. The assessed domains were: selection, performance, attrition/detection, and reporting bias. Differences of opinion and judgments about each of the criteria for risk of bias were discussed until a consensus was reached.

Results

Study design

A total of 1,588 potential articles were generated from the search in electronic databases, and 29 articles were found in other sources. After removal of the duplicates, 473 articles remained for screening of title and abstract. Forty-four full-text papers were analyzed against the inclusion criteria (Figure 1). No trials or evaluation studies addressing pregnant adolescents were retrieved.

Eight articles and one trial report were included and these described six RCTs. Four trials were conducted in America (*Shifting Boundaries*, *Safe Dates*, *Ending Violence*, *Coaching boys into men*) [33–39], one in Canada (*Fourth-R: Skills for Youth Relationships*, below referred to as *Fourth-R*) [40], and one in South Africa (*Stepping Stones*) [41]. All trials were cluster RCTs; the units of randomization were communities in *Stepping Stones* [41], schools in *Safe Dates*, *Fourth R*, *Coaching boys into men* (below referred to as *Coaching boys*) [35–38,40,42], classes in *Ending Violence* [39], or schools and classes in *Shifting Boundaries* [33,34]. Two trials were conducted in rural high schools (*Safe Dates* and *Fourth R*) [35–37,40], three (*Shifting Boundaries*, *Ending Violence*, *Coaching boys*) in urban high schools [33,34,39,42], and one (*Fourth R*) in urban and rural high schools [40]. One trial, *Stepping Stones*, was conducted in rural communities although participants were recruited from schools [41]. The follow-up periods among the trials ranged from 1 month [36] to 4 years [37,38], both are follow-up times of the *Safe Dates* trial. The findings of one trial (*Safe Dates*) were reported for multiple time points, and in multiple manuscripts. For this review, the findings from two of the manuscripts of *Safe Dates* were reported: the first one describing the intervention effects on the outcomes of interest at 1-month, 1-year, 2-year and 3-year follow-up (N = 1,566) [38], and the second measuring the outcomes of interest at 4-year follow-up (N = 460) [37]. The *Safe Dates* evaluation also investigated the effects of the “Booster” that was given to a randomly selected group of adolescents from the intervention group (N = 135/460), between the 2- and 3-year follow-up surveys, and we have reported the outcomes of this “trial-within-a-trial” separately.

Measures

All six trials included at least one type of IPV: physical, sexual, psychological, and/or threats of violence perpetration and/or victimization, and/or sexual harassments (Table 1). In the *Safe Dates* trial, Likert scales were used to rate the severity of IPV [35–38]. Eighteen acts of moderate physical (e.g., scratching, slapping), severe physical (e.g., choking, beating up) and sexual

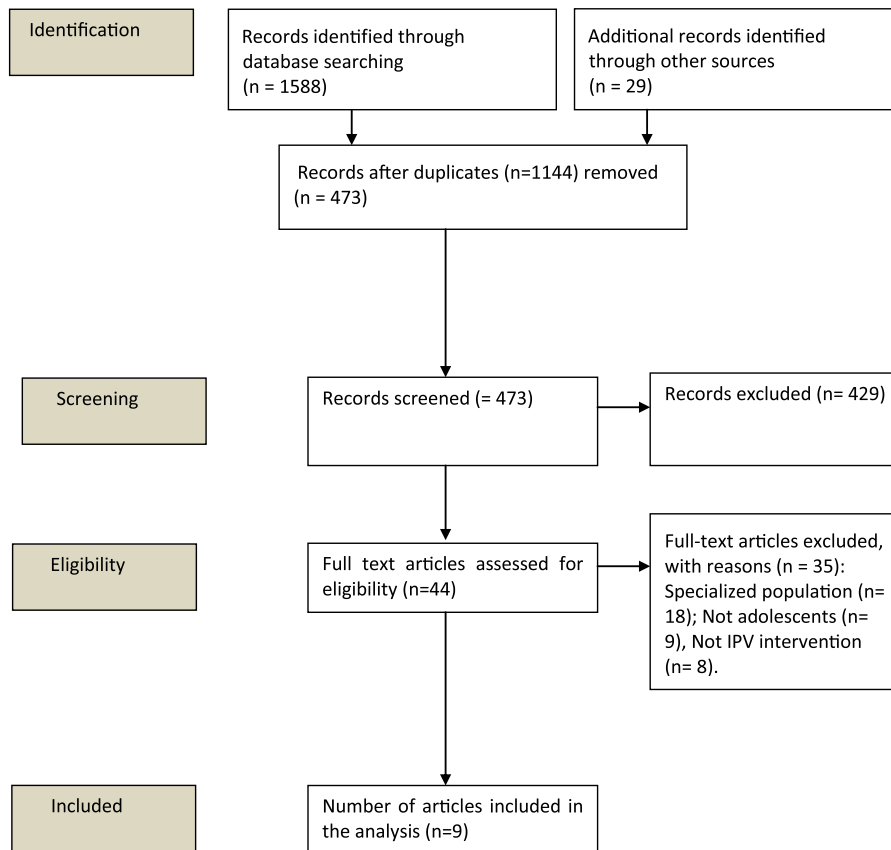


Figure 1. Flow chart of studies selected for systematic review of IPV intervention studies (based on the PRISMA Statement) [44].

(e.g., forced sex) IPV perpetration, were included; response options varied from 0 (= never) to 3 (= 10 or more times). There were parallel questions for victimization. All the other trials used binary outcomes or counts of incidents of IPV. The *Coaching boys* trial measured physical, sexual, and psychological IPV [42]; the *Ending Violence* trial measured IPV without specifying the type [39]; the *Fourth R* intervention included moderate physical IPV or threats of harm as one combined outcome [40]; the *Stepping Stones* trial included one measure of physical or sexual IPV [41]; and the *Shifting Boundaries* trial included physical and sexual IPV [33–38]. Due to the heterogeneity of interventions and outcomes, we were not able to perform meta-analysis. For example, the two trials measuring physical IPV measured this outcome in different ways. *Safe Dates* measured perpetration and victimization of physical IPV measuring the incidence of 16 behaviors, and *Fourth R* measured perpetration of physical IPV using eight yes/no items.

All trials employed self-reported data using a range of scales, including the “Conflict in Adolescent Dating Relationships Inventory” (*Fourth R*), the “Revised Conflict Tactics Scale” (*Ending Violence*), the Conflict Tactics Scale 2 (*Coaching boys*), and a modified version of the “Women’s Experience of Battering Scale” (*Ending Violence*). Instruments used at a Research Triangle Institute project funded by the Centers for Disease Control and Prevention, the STAR Project survey, and the male and female surveys for evaluating the Mentors in Violence Prevention Program (*Shifting Boundaries*) were other scales. The *Safe Dates* and *Stepping Stones* interventions did not report on the scale used.

Study population and sample

Adolescents’ ages across studies ranged from 11 to 26 years with mean ages of 11.8 years [33], 13.8 years [35–38], 14.4 years [39], 14.5 years [40], and 17.9 years [41]. One trial (*Coaching boys*) did not report on participants’ ages [42]. All trials included both males and females, but one did not report the finding for females [42]. Subgroup analyses were conducted in two trials; in one trial (*Safe Dates*), perpetration or victimization prior to study entry was used as an indicator for subgroup analysis [35,37,38], while another trial (*Fourth R*) compared adolescents who had been in a dating relationship in the year before the study with those who had not [40]. Sample sizes at baseline varied from 191 to 2,858 participants.

Description of interventions

All interventions but one (*Coaching boys*) [42] included a curriculum that consisted of sessions on, for example, personal safety, sexuality, and related health problem-solving or communication skills. All except *Ending Violence* [39] included a focus on gender power inequities. The implementers were teachers in two interventions [35–38,40], attorneys [39], school staff [33,34], sports coaches [42], or trained facilitators [41,43] in the others.

Of the five school-based interventions, two (*Safe Dates* and *Fourth R*) included a community component, such as training for service providers (e.g., social service providers and police officers) in order to deliver support to IPV victims [35–38], as well as school-project newsletters, an information session for parents,

Table 1
Overview of study and intervention characteristics and the findings of the six trials

Participants	Description of intervention	Results for perpetration	Results for victimization
<p>Foshee, 2005, Safe Dates [23]</p> <p>Sample: 1,566 participants, 733 (46.8%) males and 833 (53.2%) females, from 14 rural secondary schools</p> <p>Mean age: 13.8 years</p> <p>Attrition: 10% at 1 month after baseline; 12% at 1 year; 35% at 2 years; 50% at 3 years; 52% at 4 years follow-up.</p>	<p>Country: United States</p> <p>Year of implementation: 1994–1995</p> <p>Duration: 5 months</p> <p>Theoretical basis: Based on feminist and social learning theory</p> <p>Focus on gender power inequity: Yes</p> <p>Pedagogical approach: Activity based</p> <p>Content and delivery: School activities: Ten 45-minute session curriculum (7.5 h) delivered by teachers; theater production performed by peers; poster contest. Community activities: Special services for adolescents in abusive relationships (i.e., a crisis line, support groups, materials for parents) and community service provider training.</p> <p>Topics covered: Dating violence norms; gender-role norms; conflict management skills; perceptions.</p>	<p>Means for each outcome 2 years after baseline</p> <p>Moderate physical perpetration: mean I = 1.13; mean C = 1.39*</p> <p>Severe physical perpetration: mean I = .33; mean C = .64***</p> <p>Sexual perpetration: mean I = .06; mean C = .19*</p> <p>Psychological perpetration: mean I = 3.05; mean C = 3.25***</p> <p>Other type of perpetration: not measured</p> <p>3 years after baseline</p> <p>Moderate physical perpetration: mean I = .91; mean C = .89</p> <p>Severe physical perpetration: mean I = .25; mean C = .27**</p> <p>Sexual perpetration: mean I = .05; mean C = .07</p> <p>Psychological perpetration: mean I = 2.88; mean C = 3.08*</p> <p>Other type of perpetration: not measured</p> <p>IPV perpetration (average effect of intervention over time (1 month, 1 year, 2 and 3 years))</p> <p>Moderate physical perpetration: $\beta = -.36$; 95% CI (-.66 to -.06)*</p> <p>Severe physical perpetration: $\beta = -.29$; 95% CI (-.47 to -.11)***</p> <p>Sexual perpetration: $\beta = -.05$; 95% CI (-.11 to -.00)*</p> <p>Psychological perpetration: $\beta = -.95$; 95% CI (-1.48 to -.41)***</p> <p>Other type of perpetration: not measured</p>	<p>Means for each outcome 2 years after baseline</p> <p>Moderate physical victimization: mean I = 1.83; mean C = 1.90**</p> <p>Severe physical victimization: mean I = .52; mean C = .72</p> <p>Sexual victimization: mean I = .26; mean C = .28*</p> <p>Psychological victimization: mean I = 7.21; mean C = 6.86</p> <p>Other type of victimization: not measured</p> <p>3 years after baseline</p> <p>Moderate physical victimization: mean I = 1.65; mean C = 1.68</p> <p>Severe physical victimization: mean I = .41; mean C = .45</p> <p>Sexual victimization: mean I = .15; mean C = .20</p> <p>Psychological victimization: mean I = 6.93; mean C = 6.45</p> <p>Other type of victimization: not measured</p> <p>IPV victimization (average effect of intervention over time (1 month, 1 year, 2 and 3 years))</p> <p>Moderate physical victimization: $\beta = -.49$; 95% CI (-.86 to -.11)**</p> <p>Severe physical victimization: $\beta = -.19$; 95% CI (-.44-.07)</p> <p>Sexual victimization: $\beta = -.06$; 95% CI (-.13 to -.00)</p> <p>Psychological victimization: $\beta = -.48$; 95% CI (-1.16-.20)</p> <p>Other type of victimization: not measured</p>
<p>Foshee, 2004, Safe Dates, Booster [22]</p> <p>Sample: 460 participants, 191 (41.5%) males and 269 (58.5%) females, from 10 rural schools.</p> <p>Mean age: 13.8 years</p> <p>Attrition: 24%</p>	<p>Country: United States</p> <p>Year of implementation: 1996–1997</p> <p>Duration: 4 weeks, between 2–3 year follow-up</p> <p>Theoretical basis: Based on feminist and social learning theory</p> <p>Focus on gender power inequity: Unclear.</p> <p>Pedagogical approach: Participatory</p> <p>Content: Booster: an 11-page newsletter (information and worksheets about the curriculum) mailed to participants' homes and a personal telephonic contact by a health educator 4 weeks after the mailing. Adolescent received a monetary incentive when booster activities were finalized.</p> <p>Topics covered: Communication strategies; tips for safe dating; consequences of abusive behaviors; identification of abusive relationships.</p>	<p>(Safe Dates + booster) vs. Safe Dates</p> <p>Physical perpetration: $\beta = .70$; SD = .46; $p = .12$</p> <p>Severe physical perpetration: $\beta = .21$; SD = .14; $p = .14$</p> <p>Sexual perpetration: $\beta = .05$; SD = .05; $p = .26$</p> <p>Psychological perpetration: $\beta = .40$; SD = .61; $p = .003$**</p> <p>Other type of perpetration: not measured</p> <p>(Safe Dates + booster) vs. C group</p> <p>Physical perpetration: $\beta = .70$; SD = .46; $p = .38$</p> <p>Severe physical perpetration: $\beta = .21$; SD = .14; $p = .16$</p> <p>Sexual perpetration: $\beta = .05$; SD = .05; $p = .28$</p> <p>Psychological perpetration: $\beta = .40$; SD = .61; p value not reported</p> <p>Other type of perpetration: not measured</p>	<p>(Safe Dates + booster) vs. Safe Dates</p> <p>Physical victimization: $\beta = .42$; SD = .59; p value not reported</p> <p>Severe physical victimization: $\beta = .08$; SD = .19; p value not reported</p> <p>Sexual victimization: $\beta = .05$; SD = .08; $p = .26$</p> <p>Psychological victimization: $\beta = .68$; SD = .91; $p = .46$</p> <p>Other type of victimization: not measured</p> <p>(Safe Dates + booster) vs. C group</p> <p>Physical victimization: $\beta = .42$; SD = .59; p value not reported</p> <p>Severe physical victimization: $\beta = .08$; SD = .19; p value not reported</p> <p>Sexual victimization: $\beta = .05$; SD = .08; p value not reported</p> <p>Psychological victimization: $\beta = .68$; SD = .91; $p = .70$</p> <p>Other type of victimization: not measured</p>

Table 1
Continued

Participants	Description of intervention	Results for perpetration	Results for victimization
<p>Jaycox, 2006, Break the Cycle's Ending Violence [24]</p> <p>Sample: 2,540 participants, 1,227 (48.3%) males and 1,313 (51.7%) females, from 10 urban secondary schools.</p> <p>Mean age: 14.4 years</p> <p>Attrition: 6.8% for intervention group; 7.3% for control group.</p>	<p>Country: United States</p> <p>Year of implementation: 2001–2004</p> <p>Duration: 1 school year</p> <p>Theoretical basis: Social Learning Theory</p> <p>Focus on gender power inequity: Absent</p> <p>Pedagogical approach: Didactic</p> <p>Content</p> <p>School activities: Three 1-hour class sessions curriculum (3 h) delivered by attorneys. To increase adolescents' comfort with speaking with attorneys, and to highlight that the program offers legal services to youth, free of charge. It teaches adolescents that the law protects victims and punishes perpetrators of violence. It is a short program that is integrated with an existing health curriculum.</p> <p>Community activities: NA</p> <p>Topics covered: Identifying IPV, the legal systems available to protect victims, information about the law, warning signs, legal rights and responsibilities, safety planning.</p>	<p>Moderate physical perpetration: not measured</p> <p>Severe physical perpetration: not measured</p> <p>Sexual perpetration: not measured</p> <p>Psychological perpetration: not measured</p> <p>Other type of perpetration: IPV perpetration: 6-month follow-up: Unadjusted estimate (SD): I: $-.06$ (1.01); C: $-.01$ (1.03); adjusted effect size = .06, 95% CI ($-.13$–.25)</p> <p>Other type (perpetration/victimization not specified)</p> <p>Negative dating experiences, whole sample:</p> <p>One-day postintervention: unadjusted estimate (SD): I: $.00$ (1.12); C: $-.11$ (.97)</p> <p>Adjusted effect size# = .09, 95% CI ($-.04$–.21)</p> <p>6 months: Unadjusted estimate (SD): I: $-.13$ (.94); C: $-.20$ (.92)</p> <p>Adjusted effect size = .06, 95% CI ($-.09$–.20)</p>	<p>Moderate physical victimization: not measured</p> <p>Severe physical victimization: not measured</p> <p>Sexual victimization: not measured</p> <p>Psychological victimization: not measured</p> <p>Other type of victimization: IPV Victimization: 6-month follow-up: Unadjusted estimate (SD): I: $.0$ (1.05); C: $.03$ (1.05); adjusted effect size = .10, 95% CI ($-.10$–.30)</p>
<p>Jewkes, 2006, Stepping Stones [26]</p> <p>2,776 participants, 1,360 (49.0%) males and 1,416 (51.0%) females, from 70 rural secondary schools.</p> <p>Mean age: 17.9 years</p> <p>Attrition: At 12-month follow-up: for females: 24.2% for I group; 24.7% for C group; for males: 24.9% for I group; 28.2% for C group. At 24-month follow-up: for females: 26.9% for I group; 24.0% for C group; for males: 30.5% for I group; 30.8% for C group</p>	<p>Country: South Africa</p> <p>Year of implementation: 2003–2006</p> <p>Duration: 50 hours for 6 to 8 weeks</p> <p>Theoretical basis: Several theories of behavior change</p> <p>Focus on gender power inequity: Yes</p> <p>Pedagogical approach: Participatory learning approaches based on Paulo Freire's conceptual framework including "adult education theory."</p> <p>Curriculum: Thirteen 3-hour long single-sex group sessions (39 h) facilitated by project staff, conducted on school premises outside of school hours, focused on sex and love.</p> <p>School activities: Including role plays and drama reflecting on the adolescents' everyday reality emphasizing "how we act and what shapes our actions."</p> <p>Community activities: Three meetings of male and female peer groups per school. Community advisory board (including parents). Collaboration with a nongovernmental organization.</p> <p>Topics covered: Sex and love; conception, contraception; taking risks and sexual problems; unwanted pregnancy; STDs and HIV; safer sex and condoms; gender-based violence; motivations for sexual behavior; dealing with grief and loss; communication skills. Including role plays and drama reflecting on the adolescents' everyday reality emphasizing "how we act and what shapes our actions."</p>	<p>Moderate physical perpetration: not measured</p> <p>Severe physical perpetration: not measured</p> <p>Sexual perpetration: not measured</p> <p>Psychological perpetration: not measured</p> <p>Other type of perpetration: physical or sexual IPV perpetration, males: At 12 months: I: 11.4%; C: 14.9%; AOR = .73; 95% CI (.50–1.06); $p = .099$</p> <p>At 24 months: I: 6.2%; C: 9.6%; AOR = .62; 95% CI (.38–1.01); $p = .054$</p>	<p>Moderate physical victimization: not measured</p> <p>Severe physical victimization: not measured</p> <p>Sexual victimization: not measured</p> <p>Psychological victimization: not measured</p> <p>Other type of victimization: Physical or sexual IPV victimization, females: At 12 months: I: 18.4%; C: 20.7%; AOR = .87; 95% CI (.64–1.18); $p = .36$</p> <p>At 24 months: I: 14.7%; C: 13.5%; AOR = 1.14; 95% CI (.77–1.68); $p = .51$</p>

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Table 1
Continued

Participants	Description of intervention	Results for perpetration	Results for victimization
<p>Wolfe, 2009, Fourth R: Skills for Youth Relationships [25]</p> <p>Sample: 1,722 participants, 813 (47.2%) males and 909 (52.8%) females, from 20 urban and rural secondary schools.</p> <p>Mean age: 14.5 years</p> <p>Attrition: 12%</p>	<p>Country: Canada</p> <p>Year of implementation: 2004–2007</p> <p>Duration: 28 hours</p> <p>Theoretical basis: Skills-Based Learning</p> <p>Focus on gender power inequity: Unclear</p> <p>Pedagogical approach: Didactic</p> <p>Curriculum: 21-lesson curriculum taught by teachers in sex-segregated classes.</p> <p>School activities: NA</p> <p>Community activities: Student-led “safe school committees.” Information for parents. Teachers’ training (6 h) on dating violence and healthy relationships; “Youth Safe Schools” manual describing how to involve parents and community in prevention activities (e.g. volunteering, community resources).</p> <p>Topics covered: Personal safety, injury prevention; healthy growth and sexuality; substance use and abuse; dating violence responsibilities and consequences related to IPV, sexual decision making, interpersonal and problem-solving skills, assertiveness skills to deal with pressure and relationships.</p>	<p>Moderate physical perpetration: At 2.5 years, whole sample: Unadjusted OR# = 1.42; 95% CI (.87–2.33), $p = .15$; AOR = 2.42; 95% CI (1.00–6.02); $p = .05^*$</p> <p>At 2.5 years, adolescents dating in the year before follow-up: Unadjusted OR = 1.37; 95% CI (.89–2.13); $p = .14$; AOR = 2.13; 95% CI (.81–5.66); $p = .12$</p> <p>Males: AOR = 2.77; 95% CI (1.39–5.29); $p = .002^{**}$</p> <p>Females: AOR = 1.02; 95% CI (.61–1.72); $p = .002^*$</p> <p>Severe physical perpetration: not measured</p> <p>Sexual perpetration: not measured</p> <p>Psychological perpetration: not measured</p> <p>Other type of perpetration: not measured</p>	<p>Moderate physical: not measured</p> <p>Severe physical: not measured</p> <p>Sexual: not measured</p> <p>Psychological: not measured</p> <p>Other type of victimization: not measured</p>
<p>Taylor et al., 2011, Shifting boundaries [33,34]</p> <p>Sample: 2,655 participants, 1,247 (47%) males and 1,407 (53%) females, from 30 urban public middle schools.</p> <p>Mean age: 11.8 years (range: 10–15 years, 94.5% between 10 and 13 years)</p> <p>Attrition: 13% immediately after intervention; 18% at 6-month follow-up.</p>	<p>Country: United States</p> <p>Year of implementation: 2009–2010</p> <p>Duration: 6–10 weeks</p> <p>Theoretical basis: Theory of Reasoned Action</p> <p>Focus on gender power inequity: Unclear</p> <p>Pedagogical approach: Participatory</p> <p>Curriculum: 6-session curriculum delivered by school staff focused on the law of violence perpetration (class-based intervention).</p> <p>School activities: School-based intervention: “building-based restraining orders,” school violence protocols, awareness posters, reporting of dating violence and harassment to school personnel, and a student-developed “hotspot” map. Class- and school-based intervention.</p> <p>Community activities: NA</p> <p>Topics covered: Legal consequences for perpetrators; state and federal laws related to IPV; the construction of gender roles; healthy relationships; role of bystanders.</p>	<p>Dating relationship ratios for each outcome immediately after intervention</p> <p>Moderate physical perpetration: not measured</p> <p>Severe physical perpetration: not measured</p> <p>Sexual perpetration: Prevalence: School-based vs. control OR = 1.045, p value not reported Prevalence: Class-based vs. control: OR = 1.199, p value not reported Prevalence: School- and class-based: OR = .833, p value not reported Prevalence: School-based vs. school- and class-based: not reported Frequency: school-based vs. control: IRR = .938; p value not reported Frequency: Class-based vs. control: IRR = 01.211, p value not reported Frequency: Class- and school-based vs. control: IRR = .731, p value not reported</p> <p>Psychological perpetration: not measured</p> <p>Other type of perpetration: not measured</p> <p>Total violence perpetration: Prevalence: not reported Frequency: not reported</p> <p>Dating relationship ratios for each outcome at 6-month follow-up</p> <p>Moderate physical perpetration: not measured</p> <p>Severe physical perpetration: not measured</p> <p>Sexual perpetration:</p>	<p>Dating relationship ratios for each outcome immediately after intervention</p> <p>Moderate physical victimization: not measured</p> <p>Severe physical victimization: not measured</p> <p>Sexual victimization: Prevalence: School-based vs. control OR = 1.007, p value not reported Prevalence: Class-based vs. control: OR = 1.059, p value not reported Prevalence: School- and class-based: OR = .838, p value not reported Prevalence: School-based vs. school- and class-based: not reported Frequency: School-based vs. control: IRR = .971, p value not reported Frequency: Class-based vs. control: IRR = 1.044, p value not reported Frequency: Class- and school-based vs. control: IRR = .809, p value not reported</p> <p>Psychological victimization: not measured</p> <p>Other type of victimization: Total violence victimization: Prevalence: not reported Frequency: not reported</p> <p>Dating relationship ratios for each outcome at 6-month follow-up</p> <p>Moderate physical victimization: not measured</p> <p>Severe physical victimization: not measured</p> <p>Sexual victimization: Prevalence: School-based vs. control:</p>

Table 1
Continued

Participants	Description of intervention	Results for perpetration	Results for victimization
		Prevalence: School-based vs. control: OR = .503; $p = .075$ Prevalence: Class-based vs. control: OR = 1.038, p value not reported Prevalence: School- and class-based: OR = 1.013, p value not reported Prevalence: School-based vs. school- and class-based: OR = .479, p value not reported Frequency: School-based vs. control: IRR = .479; $p = .061$ Frequency: Class-based vs. control: IRR = .946, p value not reported Frequency: Class- and school-based vs. control: IRR = .947, p value not reported Psychological perpetration: not measured Other type of perpetration: Total violence perpetration: Prevalence: not reported Frequency: School-based vs. control: IRR = .57; $p = .11$	OR = .498; $p = .007^*$ Prevalence: Class-based vs. control: OR = .919, p value not reported Prevalence: School- and class-based: OR = .843, p value not reported Prevalence: School-based vs. school- and class-based: OR = .59; $p = .025^*$ Frequency: School-based vs. control: IRR = .474; $p = .011^*$ Frequency: Class-based vs. control: IRR = .856, p value not reported Frequency: Class- and school-based vs. control: IRR = .790, p value not reported Psychological victimization: not measured Other type of victimization: Total violence victimization: Prevalence: not reported Frequency: School-based vs. control: IRR = .459; $p = .008^*$
Miller et al., 2012 Coaching boys into men [47]	Country: United States Year: 2009–2011 Duration: 12 weeks Theoretical basis: Social Norms Change Theory Focus on gender power inequity: Yes Pedagogical approach: Participatory Curriculum: 60-minute training for sports coaches by trained violence prevention advocates to introduce the Coaches Kit (11 “Training Cards.” Coaches held brief discussions with athletes using the cards (10–15 mins during sports season). School activities: NA Community activities: NA Topics covered: Respect; IPV prevention; disclosures of violence; attitudes and behaviors related to IPV.	Moderate physical perpetration: not measured Severe physical perpetration: not measured Sexual perpetration: not measured Psychological perpetration: not measured Other type of perpetration: Physical, sexual and psychological IPV perpetration: Baseline I: Mean (SD) = .36 (.91); C: Mean (SD) = .30 (.84); $p = .20$. Follow-up I: Mean (SD) = .35 (.97); C: Mean (SD) = .38 (1.06); p value not reported.	Moderate physical victimization: not measured Severe physical victimization: not measured Sexual victimization: not measured Psychological victimization: not measured Other type of victimization: not measured

AIR = adjusted incidence ratio; AOR = adjusted odds ratio; C = control; CI = confidence interval; I = intervention; SD = standard deviation.

* $p < .05$ favoring intervention arm; ** $p < .01$ favoring intervention arm; *** $p < .0001$ favoring intervention arm; # = adjusted for clustering at track-by-year level, fixed effects for restrictions in randomization, gender, English proficiency, dating status, and correlation with baseline values of the outcome.

and a manual on how to prevent violence in the community [40]. The activities in the remaining three trials [33,34,40,42] were confined to schools (Table 1). In *Stepping Stones*, the program was implemented in the community and delivered to single-sex groups [41,43]. This was complemented by three mixed-sex group sessions, and a community meeting advisory board.

All but one trial included only one intervention and one comparison arm. However, the *Shifting Boundaries* trial [33,34] included two intervention arms and one comparison arm.

Effects of interventions

Three of the six interventions [33–38,40] demonstrated positive effects on IPV outcomes for both sexes. Two trials, *Safe Dates* and *Fourth R* found that those in the intervention arm reported less perpetration of physical IPV (Table 1). The *Safe Dates* trial, found that those in the intervention arm reported less

sexual and psychological IPV perpetration compared with those in the control arm. The *Shifting Boundaries* trial found that those in the two intervention arms (the school-based and the combined class- and school-based intervention groups) reported less IPV perpetration and victimization (types not specified). The classroom-only intervention was not effective in reducing IPV perpetration and victimization.

Three interventions *Ending Violence*, *Stepping Stones*, *Coaching boys* found that there was no statistically significant impact on any of the IPV outcomes measured; however, the prevalence of perpetration was lower among men in the *Stepping Stones* intervention arm, compared with those in the control arm 2-year follow-up.

Intimate partner violence perpetration

Physical intimate-partner-violence perpetration. Two trials, *Safe Dates* and *Fourth R* included measures of physical IPV

perpetration, and both demonstrated positive intervention effects. In the *Safe Dates* trial, participants reported on average, less perpetration of moderate and severe physical violence over four follow-up periods (at 1 month, 1 year, 2 years, and 3 years) compared with adolescents in the control group; respectively $\beta = -.36$; 95% confidence interval (CI) $(-.66--.06)$; $p = .02$ for moderate, and $\beta = -.29$; 95% CI $(-.47--.11)$; $p = .001$ for severe IPV perpetration (analyses not stratified by sex) [38]. Additionally, in subgroup analyses, the effect of *Safe Dates* was moderated by prior involvement in severe physical IPV perpetration; intervention adolescents who reported at baseline no severe physical violence perpetration ($\beta = .31$; 95% CI $(.23-.40)$; $p = .001$) or moderate physical violence perpetration ($\beta = .41$; 95% CI $(.35-.46)$; $p = .005$), reported on average less perpetration of severe physical IPV over time compared with adolescents in the control group [38]. However, these prevention effects were not found for adolescents who reported at baseline to have perpetrated high amounts of severe physical violence perpetration prior to intervention compared with the control group (β -value and CI not reported, $p = .80$) [38]. At 4-year follow-up (attrition was 52%), adolescents exposed to *Safe Dates* reported less perpetration of physical IPV and of severe physical IPV than those in the control group; for physical IPV perpetration $\beta = -1.11$; standard deviation (*SD*) = .49; $p = .02$, and for severe physical IPV perpetration: $\beta = -.42$; *SD* = .16; $p = .04$ [37]. The intervention effects did not vary by gender. In the *Fourth R* trial, adolescents who were exposed to the intervention reported less perpetration of physical IPV compared with the controls (unadjusted OR = 1.42; 95% CI $(.87-2.33)$, $p = .15$; AOR = 2.42; 95% CI $(1.00-6.02)$; $p = .05$) [40]. Although males, exposed to the *Fourth R* intervention, were less likely to perpetrate physical IPV at follow-up compared with those in the control schools, there was no significant difference for females between study arms. The *Safe Dates*' booster did not have any significant effect on physical IPV perpetration, when compared with the control group and with the intervention group without booster (Table 1).

Sexual intimate-partner-violence perpetration. Only one trial, *Safe Dates*, measured sexual IPV perpetration separately from other IPV measures, and this trial showed positive effects; adolescents who received the intervention, reported less sexual IPV perpetration on average over first four follow-up points up to 3 years, compared with those in the control group ($\beta = -.05$; 95% CI $(-.11-.00)$; $p = .04$) [38] (Table 1). At the 4-year follow-up adolescents allocated to *Safe Dates* reported less sexual IPV perpetration than adolescents in the control arm ($\beta = -.10$; *SD* = .05; $p = .04$) [41]. In subgroup analyses there were no differences in the effects of the intervention for adolescents who reported and for those who did not report sexual IPV perpetration at baseline. The intervention did not have a differential effect on males and females. The *Safe Dates*' booster had no significant effect.

Psychological intimate-partner-violence perpetration. Two of the six trials included psychological IPV perpetration as an outcome (*Safe Dates* and *Coaching boys*). However, only in the *Safe Dates* trial was this outcome separated from other types of IPV. Adolescents in the *Safe Dates* intervention arm reported less psychological IPV perpetration on average over four follow-up points up to Year 3 compared with those in the control group ($\beta = -.95$; 95% CI $(-1.48--.41)$; $p = .0001$) [38]. In subgroup analyses there were no differences in the effects of the

intervention for adolescents who reported and for those who did not report psychological IPV perpetration at baseline. There were no gender differences in effects on psychological IPV perpetration. In the trial evaluating the *Safe Dates* booster, there were no significant differences.

Intimate partner violence victimization

Physical intimate-partner-violence victimization. Only one trial, *Safe Dates*, measured moderate physical IPV victimization separately from other IPV measures, and it demonstrated positive effects on this outcome. Adolescents in the *Safe Dates* intervention arm reported less victimization from moderate physical IPV on average over the first four follow-up points up until Year 3, compared with those in the control arm ($\beta = -.49$; 95% CI $(-.86--.11)$; $p = .01$) [38]. In case of severe physical IPV victimization, there were no significant differences between treatment and control group. On average over 4 years follow-up, adolescents in the *Safe Dates* intervention arm reported less physical ($\beta = -1.12$; *SD* = .62; $p = .07$) and serious physical ($\beta = -.45$; *SD* = .20; $p < .05$) IPV victimization [37]. In subgroup analyses, the effects of the intervention were the same for adolescents who reported and for those who did not report moderate or severe physical IPV victimization prior to intervention exposure. The intervention effects did not vary by gender. In the substudy evaluating the *Safe Dates* booster there was no effect of the booster on this outcome (Table 1).

Sexual intimate-partner-violence victimization. Two trials, *Safe Dates* and *Shifting Boundaries*, measured sexual IPV victimization. In the *Safe Dates* trial, on average over the first four follow-ups, there was no significant difference in this outcome between the intervention and control groups ($\beta = -.06$; 95% CI $(-.13-.00)$) [38]. However, 4 years after the intervention, participants in the *Safe Dates*' arm were significantly less likely to report sexual IPV victimization ($\beta = -.23$; *SD* = .08; $p = .01$) [41] (Table 1). In subgroup analyses, there were no significant differences in the effects of the intervention between adolescents with and without prior sexual IPV victimization. The intervention effects did not vary by gender. Compared with the *Safe Dates*-only group, the booster had no significant effect on this outcome. Six months after the school-wide *Shifting Boundaries*' intervention, the prevalence and frequency of sexual IPV victimization declined, respectively, by 50% (OR = .498; $p = .007$), and 53% (IRR = .474; $p = .011$) compared with the control group. In addition, the school-based intervention group reported a 40% reduction in the prevalence of sexual IPV victimization at 6-month follow-up (OR = .59; $p = .025$) compared with the class- and school-based intervention group [33,34].

Psychological intimate-partner-violence victimization. Only the *Safe Dates* trial measured psychological IPV victimization separately from other measures of IPV; on average over the first four follow-up points (3 years), there were no differences in psychological IPV victimization between study arms ($\beta = -.48$; 95% CI $(-1.16-.20)$) [38]. This was also found 4 years after the intervention ($\beta = -.35$; *SD* = .86; $p = .68$) [37] (Table 1). The effects of the intervention were the same for adolescents who reported and for those who did not report prior psychological IPV victimization. The intervention effects did not vary by gender. When comparing the booster with the *Safe Dates*-only group in

the trial evaluating the effects of the booster, there was no effect of the booster on this outcome ($\beta = .68$; $SD = .91$; $p = .46$) [37].

Other intimate-partner-violence outcomes

Four trials included IPV outcome measures without separating out the types of IPV. All measured perpetration and three measured victimization. *Ending Violence* included only a subset of their participants in their analysis of the outcomes: adolescents' negative dating experiences, and IPV perpetration and victimization. The intervention had no effect on any of the outcomes, 1 day after the survey or at 6-month follow-ups. The *Stepping Stones* trial measured physical or sexual IPV perpetration among males, and physical or sexual IPV victimization among females. Fewer males in the intervention arm reported perpetrating physical/sexual IPV compared with males in the control arm at 12- and 24-month follow-up although the differences were not statistically significant. Among female participants, there were no differences between arms in physical or sexual IPV victimization. In the *Coaching boys* trial physical, sexual, and psychological IPV perpetration were measured without separating the types of IPV. The intervention did not show any effects. In *Shifting Boundaries* a total IPV perpetration and victimization measure were calculated. There were no intervention effects (Table 1).

Risk of bias

Figure 2 shows a summary of the risk of bias of all trials [44]. Four trials gave no information about the method of generation

of the randomization sequence. Two trials, provided information about the method used to generate the random allocation sequence (coin tossing (*Fourth R*) and computer-generated random allocation respectively (*Stepping Stones*), which we judged “low risk of bias.”) Two trials, *Stepping Stones* and *Coaching boys*, reported the method of allocation concealment (judged “low risk of bias”). It was not possible to blind participants or personnel in any of the trials and thus performance bias cannot be ruled out. However, in the *Fourth R* trial, participants were “blinded to condition.” It is unclear how this was achieved and whether it might have impacted performance bias. None of the trials reported blinded outcome assessment for the IPV perpetration and victimization outcomes and thus detection bias cannot be ruled out. Participants in *Fourth R* completed an additional health-related survey to mask the primary outcome; however, it is not clear how this worked.

The attrition of the *Safe Dates* trial was 10% (at 1-month follow-up), 12% (1-year), 35% (2-year) [35–37], 50% (3-year) and 52% (4-year) [38]. Random coefficient modeling and multiple imputation procedures were employed to account for missing data due to attrition [38]. The trial to evaluate the booster had an attrition rate of 24% [37]. For *Stepping Stones*, at 12 months the attrition in the intervention and control group was between 24.2% and 28.2% [41]. At 24-month follow-up attrition was between 26.9% and 30.8% [41]. Attrition in the *Ending Violence* trial was 6.8% in the intervention arm and 7.3% in the control arm (6-month follow-up) [39]. The authors applied analysis of covariance and used all available data from participants, even those missing the pretest [39]. In the *Fourth R* trial, 12% of participants were lost at 2.5-year follow-up [40]. For *Shifting Boundaries* [33,34,37,38], the attrition at first follow-up was 13%, and 6 months after intervention the attrition was 18%. At follow-up, the attrition for *Coaching boys* was 10.4%. It was unclear whether there was selective outcome reporting because we did not have access to the trial protocols.

Discussion

The aim of this review was to evaluate the effectiveness of interventions to prevent primary or secondary perpetration and victimization of IPV among male and female adolescents. We included eight articles and one report, describing six trials in three countries. A meta-analysis was not performed because of variations in interventions and outcome measures among the six trials.

Our review suggests that comprehensive IPV prevention interventions based in both school and community are effective in preventing IPV perpetration and victimization among adolescents.

Half of the trials were effective in preventing perpetration and/or victimization of IPV among adolescents (*Safe Dates*, *Fourth R*, *Shifting Boundaries*). All of those were based in multiple settings (school and community) and focused on key adults in the adolescents' environment (such as teachers, parents, and community members). They addressed relationship skills and measured more than one type of IPV (e.g., physical and sexual). Physical IPV perpetration and victimization were the most commonly focused on in the included trials, whereas only two studies [35–38,42] addressed emotional/psychological abuse. In addition to these three trials, the *Stepping Stones* intervention, which consisted of a curriculum and community activities, led to fewer males (but not females) in the intervention arm who reported perpetrating physical/sexual IPV, although the differences were not statistically significant. Our results are consistent with

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Foshee(SafeDates-Booster)	?	?	●	●	●	?	+
Foshee(SafeDates-study)	?	?	●	●	●	?	+
Jaycox (Ending Violence)	?	?	●	●	+	?	+
Jewkes (Stepping Stones)	+	+	●	●	+	?	+
Miller (Coaching boys)	+	?	●	●	+	+	?
Taylor(ShiftingBoundaries)	?	?	●	●	●	?	+
Wolfe (Fourth R)	+	?	●	?	+	?	+

Figure 2. Risk of bias summary: Review authors' judgments about each risk of bias item for each included study.

the findings of a previous review of IPV prevention interventions, which concluded that the most effective interventions had the most comprehensive programs, including individual-level curricula and community-based components [31].

Two interventions were not effective in preventing IPV (*Ending Violence, Coaching boys*). They were of shorter duration compared with those that were effective. They consisted of a curriculum only.

The differential effect of the interventions on sex was investigated in two trials. *Safe Dates* used a gender-neutral approach (they do not view violence as primarily perpetrated by males, but also by females), and showed that there was no statistically significant interaction between gender and the intervention outcomes; *Safe Dates* was equally effective for males and females [22,23]. Contrarily, the *Stepping Stones* trial, applying a “gender focus,” demonstrated a reduction in perpetration of violence by men, but no concomitant reduction in incidence of victimization among women [26]. Given gender power imbalances inherent in intimate relationships [31], female participants might have been in a weaker position than males with regard to influencing the incidence of IPV, especially when they were having relationships with men who had not been exposed to the intervention. The gendered nature of violence implies that IPV is primarily a problem of men’s violence against women [20,45,46], which is more aggressive and extreme [46,47]. Moreover, violent acts from females may occur out of self-defense [45,46,48]. Gender differences are crucial when designing interventions [46]. Further research is needed to find out whether a gender neutral approach works better than a focused approach targeting males and females separately.

The limitations in terms of quality of the individual studies included in this review means that the findings must be interpreted with caution [32]. To evaluate *Safe Dates*, different analytical methods were implemented across different times of follow-up, and there was a high attrition rate. The level to which the results of *Ending Violence* can be generalized is unclear. The main shortcoming of *Fourth R* is the focus on only one type of violence, whereas it has been suggested that it is important to include other types of violence [49]. *Shifting Boundaries* did not measure important covariates like violence in the home or community, which might have influenced the results. The potential selection bias of the *Coaching boys* evaluation study was one of its limitations. Furthermore, all trials relied on self-reported outcomes, which may have a doubtful validity [25,50]. In future trials, we suggest the use of standardized measures of IPV including emotional, physical, and sexual IPV, such as those developed by the World Health Organization [4]. However, these measures will need to be adapted for adolescents, who usually do not have long-term established intimate partnerships [16].

Our review’s strength is the inclusion of only RCTs and the use of a wide range of databases. In addition, this review contains the analysis of the risk of bias of each study. As mentioned above, the findings in this review need to be considered with caution. Additional reasons are the quality of the included studies and, as in every review, the methodological decisions made by the authors. This review is limited by its inclusion criteria, and the selection of the population group. Our review was further limited by the variability in type of interventions and outcomes.

In conclusion, we should be mindful of the limitations of existing interventions, and move in the direction of examining the intervention effects on IPV perpetration and victimization among male and female adolescents with and without prior experiences with IPV, taking gender differences into account;

violence occurs in a context that is not gender-neutral. Larger, well-conducted, RCTs reflecting the heterogeneity of the study population and minimized exclusion criteria are needed [51].

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